

CLAIMS

1. A water repelling cap for a container having an opening with a rim, said cap comprising:

a closure shell; and

5 a non-wetting material layer deposited over at least a portion of an inside surface of said closure shell.

2. The water repelling cap of claim 1, wherein said portion comprises an area between an edge of said cap and a region of said inner surface in a sealing contact with
10 said opening.

3. The water repelling cap of claim 1, wherein said non-wetting material layer comprises at least one of a polyvinyl chloride, a polyester, a poliketone, an epoxy, a phenolic, and a polyacrylic.

15 4. The water repelling cap of claim 3, wherein a composition of said non-wetting material layer further comprises Zonyl.

5. The water repelling cap of claim 4, wherein a Zonyl concentration in said
20 composition has a dry weight ratio ranging from approximately 1 to approximately 10%.

6. The water repelling cap of claim 5, wherein said dried concentration is preferably about 4%.

25 7. The water repelling cap of claim 3, wherein said non-wetting material layer is a PVC-free lacquer.

8. The water repelling cap of claim 7, wherein said non-wetting material layer
30 comprises at least one of a polyester and an epoxy-phenolic resin.

9. The water repelling cap of claim 8, wherein a composition of said non-wetting material layer further comprises Teflon.

10. The water repelling cap of claim 9, wherein a Teflon concentration in said composition has a dry weight ratio ranging from approximately 1 to approximately 10 %.

5 11. The water repelling cap of claim 10, wherein said dried concentration is preferably about 7 %.

12. The water repelling cap of claim 1, wherein said closure shell is one of a crown cap, and a roll-on cap.

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13. A method for manufacturing a water repelling cap, comprising:
providing a metallic sheet having a top surface and a bottom surface;
applying a non-wetting material layer to one of said surfaces; and
forming said cap from said metallic sheet.

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14. The method of claim 13, further comprising applying a coat of varnish to said metallic sheet and curing said coat of varnish before applying said non-wetting material layer.

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15. The method of claim 14, further comprising transferring an ink to said metallic sheet, so as to imprint thereon at least one of a brand logo, a producer logo, and a promotional message, and curing said ink before applying said material layer.

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16. The method of claim 13, wherein said non-wetting material layer comprises at least one of a polyvinyl chloride, a polyester, a poliketone, an epoxy, a phenolic, and a poliacrylic.

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17. The method of claim 16, wherein a composition of said non-wetting material layer further comprises Zonyl.

18. The method of claim 17, wherein a Zonyl concentration in said composition has a dry weight ratio ranging from approximately 1 to approximately 10%.

19. The method of claim 18, wherein said dried concentration is preferably about 4%.

20. The method of claim 13, wherein said non-wetting material layer is a PVC-free lacquer.

21. The method of claim 20, wherein said non-wetting material layer comprises at least one of a polyester and an epoxi-phenolic resin.

22. The method of claim 21, wherein a composition of said non-wetting material layer further comprises Teflon.

23. The method of claim 22, wherein a Zonyl concentration in said composition has a dry weight ratio ranging from approximately 1 to approximately 10 %.

24. The method of claim 23, wherein said dried concentration is preferably about 7 %.

25. A method for manufacturing a water repelling cap, comprising:
providing a metallic sheet;
forming at least one cap from said metallic sheet; and
applying a non-wetting material layer to at least a portion of an inner surface of said cap.

26. The method of claim 25, wherein said applying comprises applying said non-wetting material layer to an area between an edge of said cap and a region of said inner surface in a sealing contact with said opening.

27. A method for manufacturing a water repelling cap, comprising:
providing a roll-on metallic cap; and
applying a non-wetting material layer to at least a portion of an inner surface of said cap.

28. A water repelling cap for a container having an opening with a rim, said cap comprising:

a closure cap; and

5 non-wetting means for repelling moisture from confined regions between an inside surface of said cap and an outside surface of said container.

29. The water repelling cap of claim 28, wherein said non-wetting means is disposed substantially on an area between an edge of said cap and a region of an inner surface of said container in sealing contact with said opening.

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30. The water repelling cap of claim 28, wherein said cap is a linerless cap.

31. The water repelling cap of claim 28, wherein said cap is one of a crown cap and a roll-on cap.

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